



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,653	04/02/2004	Xinhao Gao	1904/13747US02	3398
23446	7590	09/16/2005	EXAMINER	
MCANDREWS HELD & MALLOY, LTD 500 WEST MADISON STREET SUITE 3400 CHICAGO, IL 60661			BERNATZ, KEVIN M	
			ART UNIT	PAPER NUMBER
			1773	

DATE MAILED: 09/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

7d

<b>Office Action Summary</b>	<b>Application No.</b> 10/817,653	<b>Applicant(s)</b> GAO ET AL.	
	<b>Examiner</b> Kevin M. Bernatz	<b>Art Unit</b> 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20-40 is/are pending in the application.  
     4a) Of the above claim(s) 30-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-29 is/are rejected.
- 7) ☒ Claim(s) 20-29 is/are objected to.
- 8) ☒ Claim(s) 20-40 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/2/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

9

## **DETAILED ACTION**

### ***Response to Amendment***

1. Amendments to the specification and claims 20 – 22 and 24, cancellation of claims 1 - 10, and addition of claims 30 - 40, filed on April 2, 2004 and May 16, 2005, have been entered in the above-identified application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Election/Restrictions***

3. Newly submitted claims 30 – 40 are directed to an invention that is independent or distinct from the invention originally claimed and elected for the following reasons: the product of claims 20 – 29 can be made by another and materially different method, such as curing the resin using IR radiation or convection heating. Applicants are reminded that process limitations in a *product* claim are not germane to the determination of patentability or restriction requirements unless it can be shown to result in an unobvious difference can be shown to result from the claimed process limitations. In the instant case, the Examiner deems there is no unobvious difference in the final structure of the product whether the product is cured via UV, IR or convection heating.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 30 – 40 are withdrawn from

Art Unit: 1773

consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Examiner's Comments***

4. The Examiner notes that claim 20 depends from a withdrawn claim (i.e. claim 30). The limitations of claim 30 *have* been considered in the determination of patentability of claim 20, however should claim 20 be found allowable applicants will be required to incorporate the subject matter of claim 30 into claim 20.

5. The limitation "radiation cured magnetic resin" has been given the same scope as in parent application 10/184,867 (*see Paragraph 5 of the Office Action mailed June 21, 2004 in application 10/184,867*).

6. The Examiner notes that claim 30 recites the limitation "an effective amount of a photo inhibitor", which appears to be a typographical error and should recite "an effective amount of a photo initiator". For purposes of evaluating the prior art, the Examiner has interpreted claim 30 as reciting "photo initiator" not "photo inhibitor".

### ***Double Patenting***

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

Art Unit: 1773

patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 20 – 29 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 5 – 10 and 30 - 39 of copending Application No. 10/184,867. Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications claim a composite object meeting the claimed *structural* limitations. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Objections***

9. Claims 20 – 29 are objected to because of the following informalities: claim 20 depends from a withdrawn claim (claim 30) and should be amended to include the subject matter of claim 30 prior to allowance (see Paragraph 4 above). Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 20 – 29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not describe “an effective amount of a photo inhibitor”, which is recited in claim 30 (from which claim 20 depends). For the purposes of evaluating the prior art, the Examiner has interpreted claim 30 as reciting “an effective amount of a photo initiator”.

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 20 – 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 30, from which claim 20 depends, recites using UV radiation to cure the resin, as well as claim 20 reciting a radiation cured resin. However, claim 30 further recites adding “an effective amount of a photo inhibitor”, which renders the claim indefinite since it is unclear what “an effective amount” would be in this situation. Given

Art Unit: 1773

that one desires to UV cure the resin, one would not want to inhibit the ability of the resin to be photo (UV) cured, so is "effective amount" zero? Or is the effective amount of a photo inhibitor referring to a non-zero amount to prevent further photo-induced degradation after curing? Applicants' specification provides no guidance, which is why the Examiner deems that the limitation as claimed is indefinite. However, as noted above, the Examiner believes that this is a typographical error and has interpreted the claim as requiring "an effective amount of a photo *initiator*".

### ***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20 – 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai et al. (WO 2001/32334) in view of Boudouris et al. (U.S. Patent App. No. 2002/0081446 A1) and Durand (U.S. Patent No. 5,093,038). See Arai et al. (U.S. Patent No. 6,536,507 B1) which is the English language equivalent of WO '334.

Regarding claim 20, Arai et al. disclose a bonded magnet composition (i.e. applicants' "radiation cured magnetic resin") (*col. 1, lines 10 – 18*) comprising 50 – 95 weight % of magnetic particles (*col. 3, lines 29 – 34*) having an average particle size ranging from 1 to 200  $\mu$  (*col. 11, lines 42 – 45*), in combination with 5 to 50 weight % of

Art Unit: 1773

a radiation curable resin (*col. 1, lines 10 – 18 and col. 4, lines 1 – 37: “polymethyl methacrylate”, “epoxy resins”, and “butadiene-acrylonitrile rubber”*).

While Arai et al. fail to disclose *using* radiation to cure the composite resin, the Examiner notes that the disclosed materials are clearly capable of being cured by radiation and using radiation to cure polymers is known to one of ordinary skill in the art as a method of curing that avoids direct application of heat to avoid degradation or melting problems. However, as noted above, the *use* of radiation is a process limitation and is not germane to the determination of patentability of a *product* claim unless an unobvious difference in the final structure of the product can be shown.

Arai et al. further fail to disclose the viscosity of the magnetic composition, an effective amount of photo *initiator*, nor a composite object comprising a non-magnetic substrate having at least one surface to which is directly adhered a printed layer of the radiation cured magnetic resin.

However, Boudouris et al. teach using bonded magnet compositions meeting applicants' claimed viscosity limitations in order to insure proper processing and application of the bonded magnetic compositions (*Paragraphs 0060 and 0073*) in order to allow it to be directly adhered to a nonmagnetic substrate for improved processability (*Paragraphs 0002 and 0008*).

Regarding the limitation(s) “a printed layer of a radiation cured magnetic resin”, the Examiner has given the term(s) the broadest reasonable interpretation(s) consistent with the written description in applicants' specification as it would be interpreted by one of ordinary skill in the art. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023,



Art Unit: 1773

1027 (Fed. Cir. 1997); *In re Donaldson Co., Inc.*, 16 F.3d 1190, 1192-95, 29 USPQ2d 1845, 1848-50 (Fed. Cir. 1994). See MPEP 2111. Specifically, the Examiner deems that “printed layer” has at least two meanings. First, it could be construed to mean that the magnetic layer contains indicia or markings. Second, it could be construed to mean that the magnetic layer is “printed” onto the substrate, i.e. as an equivalent term to “deposited”. The latter definition could also include magnetic resin layers that are both continuous or discontinuous (as in “printed” into shapes, etc.). Applicants’ as-filed specification does not clearly define which of the above interpretations is meant by the term “printed layer of a radiation cured magnetic resin” and for the purposes of evaluating the prior art, the Examiner has interpreted the claim as being open to either definition. As such, Boudouris et al. disclose depositing a magnetic layer on the non-magnetic substrate (*Paragraphs 0002 and 0008*).

It would therefore have been obvious to one of ordinary skill in the art at the time of the applicant’s invention to modify the device of Arai et al. to possess a viscosity and be formed as a composite object meeting applicants’ claimed limitations as taught by Boudouris et al., since such limitations insure proper processing and application of the bonded magnetic compositions in order to allow it to be directly adhered to a nonmagnetic substrate for improved processability.

Furthermore, Durand teaches that it is known in the art to add photo initiators to radiation curable resin compositions in order to achieve improved curing characteristics (*col. 14, lines 18 – 20 and col. 17, line 66 bridging col. 18, line 24*).

It would, therefore, have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Arai et al. in view of Boudouris et al. to include "an effective amount of a photo *initiator*" as taught by Durand, since adding a photo initiator in an effective amount to a radiation curable resin composition can achieve improved curing characteristics.

The Examiner further notes that it would have been obvious to add an effective amount of a "photo inhibitor" should non-UV curing be used in order to prevent photo-initiated degradation, or where "effective amount" is zero if UV curing is utilized.

Regarding the limitation(s) "when used in an inline printing process", the Examiner notes that this limitation(s) are/(is a) process limitation(s) and is/are not further limiting in terms of the structure resulting from the claimed process. Specifically, in a product claim, as long as the prior art product meets the claimed structural limitations, the method by which the product is formed is not germane to the determination of patentability of the product unless an unobvious difference can be shown to result from the claimed process limitations. In the instant case, since the viscosity of a curable resin is strongly temperature dependent and Boudouris et al. provides an explicit teaching of using a polymer with the desired viscosity range, the Examiner notes that the disclosed resins can clearly meet the claimed viscosity limitation "when used in an inline printing process" by simply adjusting the temperature at which the in-line printing is performed.

Similarly, the limitation "by applying UV radiation to the coating to effect the radiation cure of said composition" and "magnetically charging the magnetic particles"

Art Unit: 1773

are process limitations in a product claim and are not further limiting in terms of the structure resulting from the claimed process since there does not appear to be any unobvious difference in the relative structures of the claimed and prior art products resulting from the claimed process limitations.

The limitation(s) "to form an in-line printing composition" is (an) intended use limitation(s) and is not further limiting in so far as the structure of the product is concerned, except as noted below. Note that "in apparatus, article, and composition claims, intended use must result in a **structural difference** between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. ***If the prior art structure is capable of performing the intended use, then it meets the claim.*** In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art." [emphasis added] *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963). See MPEP § 2111.02. The Examiner deems that the structure afforded by the above intended use limitation is that the product must possess sufficient flexibility to allow for moving over the printing apparatus (*specification*, page 3). The Examiner notes that Boudouris et al. teach flexible magnetic composite structures, hence meeting the claimed intended use limitation (*Paragraph 0008*).

Regarding claims 21 and 22, Arai et al. disclose magnetic particles meeting applicants' claimed size limitations (*col. 11, lines 42 – 45*).

Regarding claim 23, Boudouris et al. teach coating meeting applicants' claimed thickness limitations in order to insure a flexible and printable composite object (*Paragraph 0075*).

Regarding claims 24 – 27, the Examiner deems that the claimed substrate materials are all known equivalents to the non-magnetic substrates used in printable, permanent magnetic assemblies, as taught by Boudouris et al. (*Paragraphs 0004 and 0072*). Substitution of equivalents requires no express motivation as long as the prior art recognizes the equivalency. In the instant case, the claimed substrate materials are all known equivalents in the field of substrates useable in printable, permanent magnetic assemblies. *In re Fount* 213 USPQ 532 (CCPA 1982); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *Graver Tank & Mfg. Co. Inc. v. Linde Air Products Co.* 85 USPQ 328 (USSC 1950).

Regarding claims 28 and 29, Boudouris et al. teach using printing or indicia on the composite object (*Paragraphs 0004, 0005 and 0058*) and it is deemed that it would have been obvious to one of ordinary skill in the art to use the printing or indicia on the side of the substrate opposite the magnetic resin composition so that the printing or indicia would be visible when the composite object is magnetically adhered to a surface.

Art Unit: 1773

15. Claims 20 – 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boudouris et al. ('446 A1) in view of Srail et al. (U.S. Patent No. 5,051,200) and Durand ('038).

Regarding claims 20 - 22, Boudouris et al. disclose a composite object comprising a non-magnetic substrate (*Figure 1, layer 14*) coated on at least one side with a bonded magnet composition (i.e. applicants' "radiation cured magnetic resin") (*Figure 1, layer 12*) comprising 50 – 95 weight % of magnetic particles (*Paragraph 0010*) in combination with 5 to 50 weight % of a radiation curable resin (*Paragraphs 0010 and 0039 – 0054 – "methyl (meth) acrylates"*), meeting applicants' claimed viscosity range limitations (*Paragraphs 0060 and 0073*).

Regarding the limitation(s) "a printed layer of a radiation cured magnetic resin", the Examiner has given the term(s) the broadest reasonable interpretation(s) consistent with the written description in applicants' specification as it would be interpreted by one of ordinary skill in the art. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Donaldson Co., Inc.*, 16 F.3d 1190, 1192-95, 29 USPQ2d 1845, 1848-50 (Fed. Cir. 1994). See MPEP 2111. Specifically, the Examiner deems that "printed layer" has at least two meanings. First, it could be construed to mean that the magnetic layer contains indicia or markings. Second, it could be construed to mean that the magnetic layer is "printed" onto the substrate, i.e. as an equivalent term to "deposited". The latter definition could also include magnetic resin layers that are both continuous or discontinuous (as in "printed" into shapes, etc.). Applicants' as-filed specification does not clearly define which of the above interpretations is meant by the

Art Unit: 1773

term "printed layer of a radiation cured magnetic resin" and for the purposes of evaluating the prior art, the Examiner has interpreted the claim as being open to either definition. As such, Boudouris et al. disclose depositing a magnetic layer on the non-magnetic substrate (*Paragraphs 0002 and 0008*).

Regarding the limitation(s) "when used in an inline printing process", the Examiner notes that this limitation(s) are/(is a) process limitation(s) and is/are not further limiting in terms of the structure resulting from the claimed process. Specifically, in a product claim, as long as the prior art product meets the claimed structural limitations, the method by which the product is formed is not germane to the determination of patentability of the product unless an unobvious difference can be shown to result from the claimed process limitations. In the instant case, since the viscosity of a curable resin is strongly temperature dependent and Boudouris et al. provides an explicit teaching of using a polymer with the desired viscosity range, the Examiner notes that the disclosed resins can clearly meet the claimed viscosity limitation "when used in an inline printing process" by simply adjusting the temperature at which the in-line printing is performed.

Similarly, the limitation "by applying UV radiation to the coating to effect the radiation cure of said composition" and "magnetically charging the magnetic particles" are process limitations in a product claim and are not further limiting in terms of the structure resulting from the claimed process since there does not appear to be any unobvious difference in the relative structures of the claimed and prior art products resulting from the claimed process limitations.

The limitation(s) "to form an in-line printing composition" is (an) intended use limitation(s) and is not further limiting in so far as the structure of the product is concerned, except as noted below. Note that "in apparatus, article, and composition claims, intended use must result in a **structural difference** between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. ***If the prior art structure is capable of performing the intended use, then it meets the claim.*** In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art." [emphasis added] *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963). See MPEP § 2111.02. The Examiner deems that the structure afforded by the above intended use limitation is that the product must possess sufficient flexibility to allow for moving over the printing apparatus (*specification, page 3*). The Examiner notes that Boudouris et al. teach flexible magnetic composite structures, hence meeting the claimed intended use limitation (*Paragraph 0008*).

Boudouris et al. fail to explicitly disclose using a radiation curable resin composition or the particle size of the magnetic particles.

While Boudouris et al. fail to explicitly disclose *using* radiation to cure the composite resin, the Examiner notes that the disclosed materials are clearly capable of being cured by radiation and using radiation to cure polymers is known to one of ordinary skill in the art as a method of curing that avoids direct application of heat to avoid degradation or melting problems. However, as noted above, the *use* of radiation

Art Unit: 1773

is a process limitation and is not germane to the determination of patentability of a *product* claim unless an unobvious difference in the final structure of the product can be shown. In addition, Srail et al. teach that by using UV curable resin compositions for bonded magnets is advantageous since the resin can be cured with reduced risk of degradation, wasted energy and reduced risk of melting (*col. 11, lines 14 – 46*). Durand further teaches known UV curable resins meeting the disclosed material limitations by applicants, wherein uniform shrinkage can be obtained, as well as optimization of the degree of cure (*col. 3, lines 7 – 14; col. 4, line 25 bridging col. 7, line 9; col. 7, lines 32 – 36; col. 8, lines 40 – 60; chemicals in cols 9 – 12; col. 20, line 1 bridging col. 23, line 13; and col. 25, line 65 bridging col. 26, line 27*).

It would, therefore, have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Boudouris et al. to use a UV curable resin composition meeting applicants' claimed limitations as taught by Srail et al. and Durand, since such a composition can produce bonded magnetic layers with uniform shrinkage, optimized degree of cure and with reduced risk of degradation and reduced energy consumption versus heat curing.

Regarding the size of the magnetic particles, Srail et al. teach the importance of optimizing the size of the particles depending on the magnetic properties desired and/or oxidation resistance, including embodiments meeting applicants' claimed particle size limitations (*col. 6, line 32 bridging col. 8, line 50 and Tables II and III*). The Examiner deems that it would have been obvious to one having ordinary skill in the art to have determined the optimum value of a results effective variable such as the particle size



Art Unit: 1773

through routine experimentation, especially given the teaching in Srail et al. regarding the desire to control the particle size to optimize the magnetic and mechanical properties of the magnet. *In re Boesch*, 205 USPQ 215 (CCPA 1980); *In re Geisler*, 116 F. 3d 1465, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997); *In re Aller*, 220 F.2d, 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Boudouris et al. further fail to disclose an effective amount of photo *initiator*.

However, Durand teaches that it is known in the art to add photo initiators to radiation curable resin compositions in order to achieve improved curing characteristics (*col. 14, lines 18 – 20 and col. 17, line 66 bridging col. 18, line 24*).

It would, therefore, have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Boudouris et al. in view of Srail et al. to include "an effective amount of a photo *initiator*" as taught by Durand, since adding a photo initiator in an effective amount to a radiation curable resin composition can achieve improved curing characteristics.

The Examiner further notes that it would have been obvious to add an effective amount of a "photo inhibitor" should non-UV curing be used in order to prevent photo-initiated degradation, or where "effective amount" is zero if UV curing is utilized.

Regarding claim 23, Boudouris et al. teach coating meeting applicants' claimed thickness limitations in order to insure a flexible and printable composite object (*Paragraph 0075*).

Regarding claims 24 – 27, the Examiner deems that the claimed substrate materials are all known equivalents to the non-magnetic substrates used in printable,

Art Unit: 1773

permanent magnetic assemblies, as taught by Boudouris et al. (*Paragraphs 0004 and 0072*). Substitution of equivalents requires no express motivation as long as the prior art recognizes the equivalency. In the instant case, the claimed substrate materials are all known equivalents in the field of substrates useable in printable, permanent magnetic assemblies. *In re Fount* 213 USPQ 532 (CCPA 1982); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *Graver Tank & Mfg. Co. Inc. v. Linde Air Products Co.* 85 USPQ 328 (USSC 1950).

Regarding claims 28 and 29, Boudouris et al. teach using printing or indicia on the composite object (*Paragraphs 0004, 0005 and 0058*) and it is deemed that it would have been obvious to one of ordinary skill in the art to use the printing or indicia on the side of the substrate opposite the magnetic resin composition so that the printing or indicia would be visible when the composite object is magnetically adhered to a surface.

### ***Response to Arguments***

#### **16. The rejection of parent claims 1 - 10 under 35 U.S.C § 102(b) and/or 103(a) – Ho Kuan, alone or in combination with various references**

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 1773

**Conclusion**

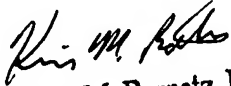
17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dickens, Jr. et al. (U.S. Patent No. 5,173,206) teach binder and binderless bonded magnets comprising magnetic powders meeting applicants' claimed material and size limitations, as well as the use of epoxy and acrylate binders (*entire disclosure*).

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KMB  
September 12, 2005

  
Kevin M. Bernatz, PhD  
Primary Examiner